ABSTRACT OF THE DISCLOSURE

The present invention is directed to a projection lens that has a sufficiently long back focus to enable a wide-angle projection and has astigmatism, abaxial spherical aberration (coma), distortion, and other types of aberration satisfactorily corrected. The projection lens includes first to third groups of lenses G1, G2 and G3. The first group of lenses G1 consist of four pieces of lenses, and the first or foremost negative one of the lenses is an aspheric lens. The second group of lenses G2 consist of two pieces of lenses, and the first or foremost negative one and the second positive one of the lenses are joined together. The third group of lenses G3 consist of six pieces of lenses, and the second foremost positive one, the third negative one, and the fourth positive one of the lenses are joined together. The projection lens is characterized in that the following formulae are satisfied;

(1) $bf/f \geqq 2.8$,

(2) $1.1 \leqq f2/f3 \leqq 1.6$, and

(3) $1.65 \leqq |f1|/f \leqq 2.05$,

where $f1$, $f2$ and $f3$ are focal lengths unique to the first, the second and the third groups of lenses G1, G2 and G3, respectively, and f and bf are total focal length and back focus of the whole optics, respectively.